

### IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method of driving an organic light emitting diode ~~electro-optic~~ display, the display having a plurality of pixels each addressable by a row electrode and a column electrode, the method comprising:
  - receiving image data for display, said image data defining an image matrix;
  - factorising said image matrix into a product of at least a first factor matrix and a second factor matrix ~~matrices~~, said first factor matrix defining row drive signals for said display, said second factor matrix defining column drive signals for said display; and
  - driving said display row and column electrodes using said row and column drive signals respectively defined by said first and second factor matrices, wherein said factorising comprises non-negative matrix factorisation (NMF).
2. (Original) A method as claimed in claim 1 wherein said driving comprises driving a plurality of said row electrodes in combination with a plurality of said column electrodes.
3. (Previously Presented) A method as claimed in claim 1, wherein said driving comprises driving said display with successive sets of said row and column signals to build up a display image, each said set of signals defining a subframe of said display image, said subframes combining to define said display image.
4. (Original) A method as claimed in claim 3 wherein a number of said subframes is no greater than the smaller of a number of said row electrodes and a number of said column electrodes.
5. (Original) A method as claimed in claim 4 wherein said number of subframes is less than the smaller of a number of said row electrodes and a number of said column electrodes.

6. (Previously Presented) A method as claimed in claim 3, wherein said first factor matrix has dimensions determined by a number of said row electrodes and a number of said subframes, and wherein said second factor matrix has dimensions determined by a number of said column electrodes and said number of subframes.

7. (Previously Presented) A method as claimed in claim 1, wherein said first and second factor matrices are configured such that a peak pixel brightness of said display is reduced compared with a row-by-row driving of said display using said image data,

8 – 14. (Canceled)

15. (Currently Amended) A method as claimed in claim 1 [[14]] wherein said image matrix comprises an  $m \times n$  (row x column) matrix **I** and said first and second factor matrices respectively comprise an  $m \times p$  (row x column) matrix **W** and a  $p \times n$  (row x column) matrix **H** where  $p$  is less than or equal to the smallest of  $n$  [[x]] and  $m$  and where  $\mathbf{I} \approx \mathbf{W} \cdot \mathbf{H}$ .

16. (Previously Presented) A method as claimed in claim 1, wherein said display comprises a multicolour display, each said pixel of which comprises subpixels of at least a green colour and a second colour, wherein said image data includes colour data defining green and second colour channels for driving said green and second colour subpixels, and wherein said image matrix factorising includes weighting said green colour channel with a greater weight than said second colour channel such that said green channel is displayed on average more accurately than said second colour channel.

17. (Original) A method as claimed in claim 16 further comprising scaling said colour data for said green and second colour channels by respective first and second weights prior to said factorisation, and wherein said second weight is less than said first weight.

18. (Previously Presented) A method as claimed in claim 16 wherein said second colour is red and wherein each said pixel further comprises a blue subpixel; wherein said colour data includes

data for a blue colour channel; and wherein said factorising includes weighting said green colour channel with a greater weight than said red and blue colour channels.

19 - 21. (Canceled)

22. (Currently Amended) A carrier carrying a processor control code for receiving image data for display by an organic light emitting display, said image data defining an image matrix; factorising said image matrix into a product of at least a first factor matrix and a second factor matrix ~~matrices~~, said first factor matrix defining row drive signals for said display, said second factor matrix defining column drive signals for said display; and driving said display row and column electrodes using said row and column drive signals respectively defined by said first and second factor matrices, wherein said factorising comprises non-negative matrix factorisation.

23. (Currently Amended) A driver for an emissive electro-optic ~~electro-optic~~ display, the display having a plurality of pixels each addressable by a row electrode and a column electrode, the driver comprising;

- an input for receiving image data for display, said image data defining an image matrix;
- a system for factorising said image matrix into a product of at least a first factor matrix and a second factor matrix ~~matrices~~, said first factor matrix defining row drive signals for said display, said second factor matrix defining column drive signals for said display; and
- output means to output said row and column drive signals respectively defined by said first and second factor matrices, and wherein all the elements of said first and second factor matrices are equal to or greater than zero.

24. (Currently Amended) A method of driving an organic light emitting diode electro-optic ~~electro-optic~~ display, the display having a plurality of pixels each addressable by a row electrode and a column electrode, the method comprising:

- receiving image data for display;

formatting said image data into a plurality of subframes, each said subframe comprising data for driving a plurality of said row electrodes simultaneously with a plurality of said column electrodes; and

driving said row and column electrodes with said subframe data, wherein said subframe data driving said row and column electrodes comprises only positive or zero data,

wherein said formatting comprises compressing said image data into said plurality of subframes, and

wherein said compressing comprises non-negative matrix factorisation (NMF).

25. (Canceled)

26. (Currently Amended) A method as claimed in claim 24 [[25]] wherein said display comprises a multicolour display, wherein said image data comprises colour image data, and wherein said compressing comprises compressing data for a green colour channel of said display less than data for at least one of a red and a blue colour channel of said display.

27. (Currently Amended) A method as claimed in claim 24, wherein said formatting is configured to generate subframe data such that data from more than one said subframe enables driving ~~drives~~ a said pixel of said display, whereby more than one said subframe contributes to an apparent brightness of pixels of the display.

28-29. (Canceled)

30. (Currently Amended) A method as claimed in claim 24 [[29]] wherein said image data comprises an  $m \times n$  (row x column) matrix  $\mathbf{I}$ , wherein  $m$  is the number of rows and  $n$  is the number of columns of said display, and wherein said NMF determines a first and said first and second factor matrices respectively comprise an  $m \times p$  (row x column) matrix  $\mathbf{W}$  and a  $p \times n$  (row x column) matrix  $\mathbf{H}$  where  $p$  is less than or equal to the smallest of  $n$  [[x]] and  $m$ , and wherein  $\mathbf{I} \approx \mathbf{W} \cdot \mathbf{H}$ .

31. (Currently Amended) A method as claimed in claim 24, wherein said display comprises a passive matrix [[an]] organic light emitting diode display.
32. (Canceled)
33. (Currently Amended) A carrier carrying processor control code for  
receiving image data for display by an organic light emitting diode display;  
formatting said image data into a plurality of subframes, each said subframe comprising  
data for driving a plurality of said row electrodes simultaneously with a plurality of said column  
electrodes; and  
driving said row and column electrodes with said subframe data, wherein said subframe  
data driving said row and column electrodes comprises only positive or zero data, and  
wherein said formatting comprises non-negative matrix factorization (NMF).
34. (Currently Amended) A driver for an emissive ~~electro-optic~~ display, the display having a  
plurality of pixels each addressable by a row electrode and a column electrode, the driver  
comprising:  
an input to receive image data for display;  
a system for formatting said image data into a plurality of subframes, each said subframe  
comprising data for driving a plurality of said row electrodes simultaneously with a plurality of  
said column electrodes; and  
an output to output said subframe data for driving said row and column electrodes, and  
wherein said subframe data driving said row and column electrodes comprises only  
positive or zero data.
35. (Currently Amended) A driver for an emissive ~~electro-optic~~ display, the display having a  
plurality of pixels each addressable by a row electrode and a column electrode, the driver  
comprising:  
an input to receive image data for display, said image data defining an image matrix;  
an output to provide data for driving said row and column electrodes of said display;

data memory to store said image data;  
program memory storing processor implementable instructions; and  
a processor coupled to said input, to said output, to said data memory and to said program memory to load and implement said instructions, said instructions comprising instructions for controlling the processor to:

input said image data;  
factorise said image matrix into a product of at least first and second factor matrices said first factor matrix defining row drive signals for said display, said second factor matrix defining column drive signals for said display; and  
output said row and column drive signals respectively defined by said first and second factor matrices, and  
wherein all the elements of said first and second factor matrices are equal to or greater than zero.

36. (Currently Amended) A driver for an emissive electro-optic display, the display having a plurality of pixels each addressable by a row electrode and a column electrode, the driver comprising:

an input to receive image data for display, said image data defining an image matrix;  
an output to provide data for driving said row and column electrodes of said display; data memory to store said image data;  
program memory storing processor implementable instructions; and  
a processor coupled to said input, to said output, to said data memory and to said program memory to load and implement said instructions, said instructions comprising instructions for controlling the processor to:  
input said image data;  
format said image data into a plurality of subframes, each said subframe comprising data for driving a plurality of said row electrodes simultaneously with a plurality of said column electrodes; and

output said subframe data for driving said row and column electrodes, and  
wherein said subframe driving said row and column electrodes comprises only positive or  
zero data.